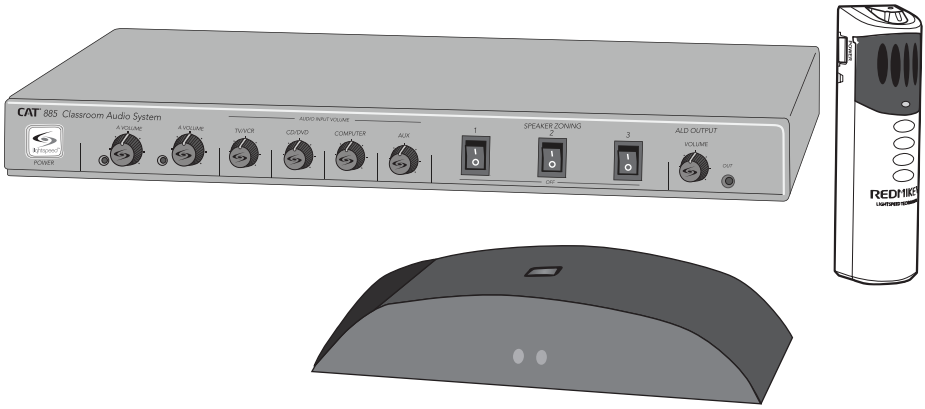
lightspeed™

CAT 885

Classroom Audio System



User Manual

TABLE OF CONTENTS

SECTION 1: **Overview**	4	Important Safety Instructions
	5	System Components and Unpacking
	7	Optional Components
	8	Front Panel Controls
	9	Rear Panel Controls
	11	ISR Controls and Connections
	12	REDMIKE Controls and Connections
	13	Cradle Charger Controls and Connections
SECTION 2: **Set-up & Use**	14	Step 1. Location of the Amplifier
	15	Step 2. ISR Sensor Installation
	18	Step 3. Speaker Installation
	18	Step 4A. Connect the Power Supply
	19	Step 4B. ISR Connection
	20	Step 4C. Speaker Connection(s)
	21	Step 4D. Audio Input Connections
	22	Step 5. Audio Integration
	23	Step 6. Charging the REDMIKE
	24	Step 7. Operating the REDMIKE
	25	Step 8. Initial Set-up Speaker Audio
	26	Step 9. Setting Mic Priorities
	27	Output to Assistive Listening Device
	28	Using the REDMIKE to Amplify External Audio Equipment
SECTION 3: **Optional Accessories**	29	REDMIKE VC: *Controls and Connections*
	30	*Charging*
	30	*Initial Set-Up*
	32	LT-71: *Controls and Connections*
	33	*Charging*
	34	*Initial Set-Up*
	35	REDMIKE Share: *Controls and Connections*
	36	*Charging*
	37	*Initial Set-Up*
	38	iR Media Connector: *Initial Setup*
	39	*Audio Integration*
	39	Other Optional Accessories
SECTION 4: **Troubleshooting**	40	Troubleshooting Guide
	41	Tips to Obtain Optimal Audio Performance
SECTION 5: **Warranty & Specifications**	42	Warranty Statement
	43	Safety Warnings and Certifications
	44	System Specifications

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use the apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/ accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lighting storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. When the mains plug or appliance coupler used as the disconnect device, it shall remain readily operable.
16. Please keep the unit in a good ventilation environment.
17. The speaker on/off switches will not disconnect the main power when in the off position.

SECTION 1:

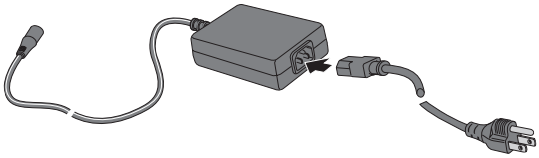
OVERVIEW

SYSTEM COMPONENTS AND UNPACKING

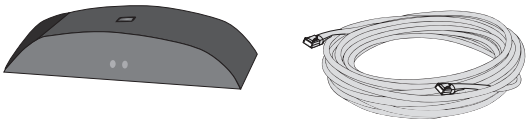
The standard configuration of the CAT 885 will contain:

CAT 885 Amplifier

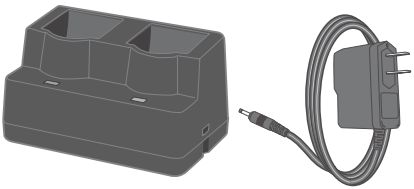
Amplifier Power Supply



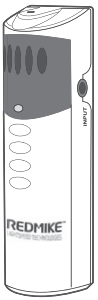
ISR Infrared Sensor/Receiver and Cable



Charging Cradle and Power Supply

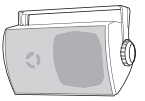


REDMIKE® Classroom Microphone



Speakers and Speaker Wire
Systems can be configured with a variety of different speaker types, including the following:

WMQ (x 4)



DRQ (x 4)

NXQ (x 1)

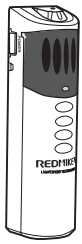
MCQ (x 1)

Standard Components	
AMP-885	Audio amplifier/mixer
PS-24V-2.5	24V/2.5A power supply for CAT 885
RX-ISR	Infrared sensor/receiver with mounting bracket
CA-P5E50	50' plenum-rated Cat 5e cable
RMT	REDMIKE classroom microphone with battery
BA-NH2A27	AA NiMH rechargeable sensing battery for REDMIKE
AC-RMLC2	REDMIKE lavaliere cord
BC-RMCC	REDMIKE cradle charger
PS-5V-1.0	5V/1.0A power supply for cradle charger
SPEAKERS	Contact Lightspeed at 800.732.8999 for speaker info

OPTIONAL COMPONENTS

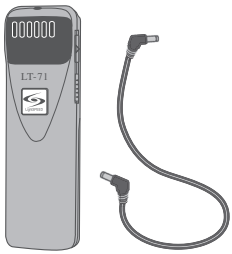
Optional equipment which may be part of your CAT 885 system:

REDMIKE® VC
Volume Control
Microphone



REDMIKE Share
Handheld
Microphone and
Charger Cable

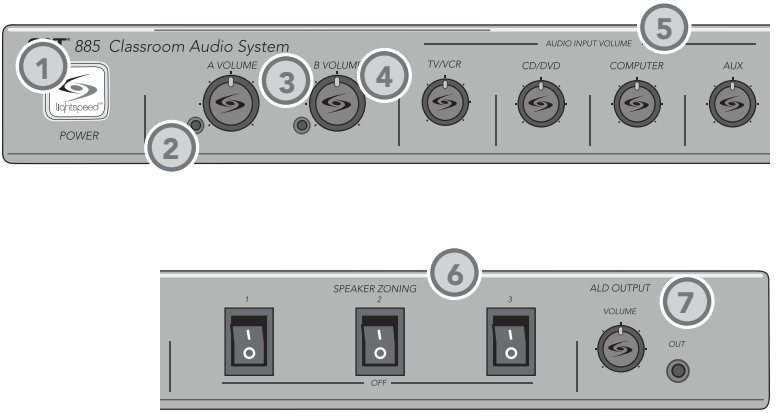
LT-71 LightMic
and Charger
Cable



Optional Components

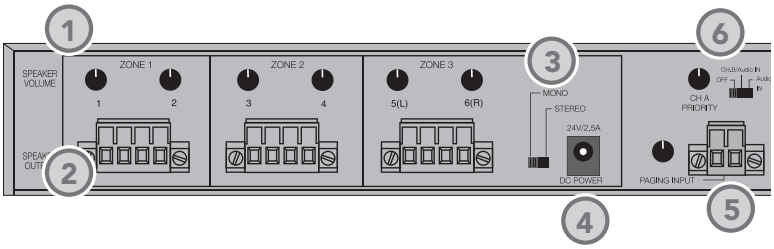
RMV	REDMIKE VC microphone with battery
RMS	REDMIKE Share handheld microphone with battery pack
LT71	LightMic microphone with batteries
BA-NH2A27	AA NiMH rechargeable sensing battery for REDMIKE
BA-NH2APK	NiMH rechargeable battery pack for REDMIKE Share
BA-NH1	AA NiMH rechargeable battery for LT71 (2 per microphone)

FRONT PANEL CONTROLS

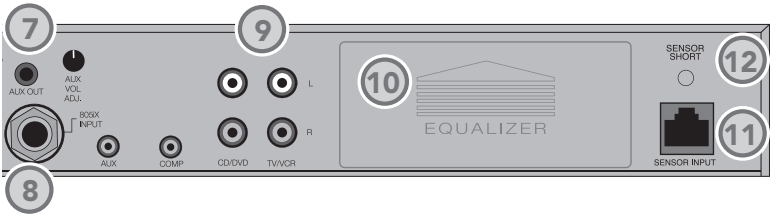


1. **POWER SWITCH/INDICATOR:** Press this button to turn the CAT 885 ON (pushed in) or OFF. When the POWER is switched on, the blue LED indicator will light.
2. **AUDIO INDICATORS:** These lights flash red when audio (voice) from the microphone is detected.
3. **A VOLUME:** Controls the volume of the teacher microphone (set to channel A).
4. **B VOLUME:** Controls the volume of the student or second teacher microphone (set to channel B).
5. **AUDIO INPUT VOLUMES:** Control the volume of the audio coming from the media source (computer, TV/VCR, CD/DVD, etc.) connected to the corresponding input the rear panel.
6. **SPEAKER ZONING:** These switches turn the corresponding speakers (connected to speaker outputs in the corresponding zones on the back panel) ON or OFF.
7. **ALD OUTPUT AND VOLUME:** This jack sends audio to external equipment such as an assistive listening device (Personal FM System) or recording device. Use the volume control to set the optimum signal level for the device.

REAR PANEL CONTROLS

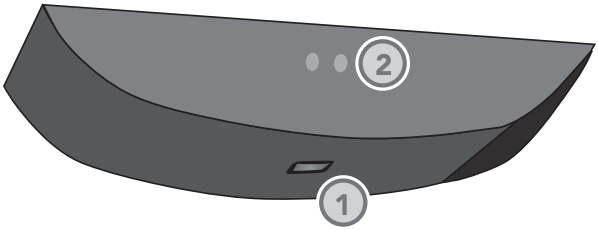


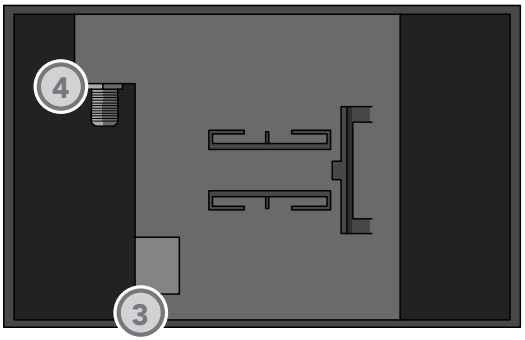
1. **SPEAKER VOLUME (1-6):** Controls the output volume of the corresponding speaker. Fully clockwise represents maximum audio level supplied to the speaker.
2. **SPEAKER OUTPUTS (1-6):** This euro-block connector is used to connect the CAT 885 to the loudspeaker(s). Up to two 8-ohm speakers can be connected to each output (maximum of 12 8-ohm speakers).
3 **MONO/STEREO SWITCH:** This switch toggles between mono and stereo speaker output for channels 5 (left) and 6 (right). This switch impacts only the multimedia sources (voice is always is mono) and only outputs 5 and 6.
4. **DC POWER:** Plug the power supply (24V/2.5A) into this jack.
5. **PAGING INPUT AND ADJ:** Connect the input from optional PageFirst sensor here when interface with a buildings paging system. Use the ADJ control to adjust the sensitivity if needed.
6. **TEACHER VOICE PRIORITY:** This 3-position switch activates the Teacher Voice Priority function



7. **AUX OUT AND VOL:** This jack sends audio to external equipment such as an assistive listening device (Personal FM System) or recording device. Use the volume control to set the optimum signal level for the device.
8. **805iX INPUT:** This input jack allows for interface with the Lightspeed 805iX wireless microphone system, which adds two additional microphone channels.
9. **AUDIO INPUTS:** These connections accept an audio signal from other technology so all multimedia can be distributed evenly throughout the classroom.
10. **8-BAND GRAPHIC EQUALIZER:** These sliding controls allow the installer to properly equalize the system to produce optimum audio quality.
11. **SENSOR INPUT:** The infrared microphone audio from the ISR is connected to this input via Cat 5 cable.
12. **SENSOR SHORT:** This LED glows red when there is a short in the ISR or cable. The system will not operate, but is protected from damage when the LED is lighted.

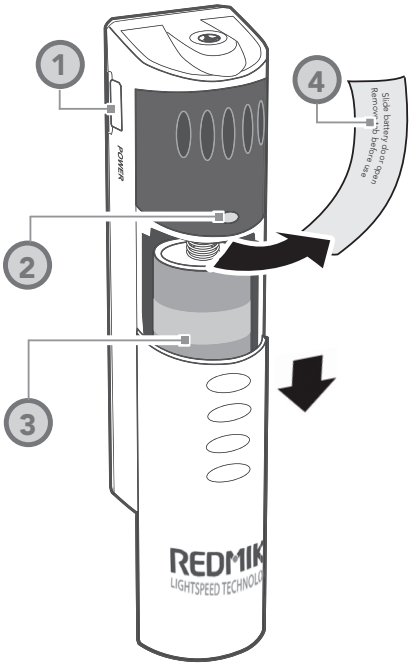
INFRARED SENSOR/RECEIVER (ISR) CONNECTIONS

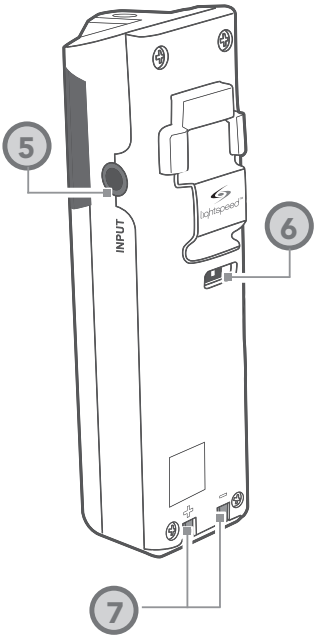




1. **POWER INDICATOR:** This light will glow blue when the ISR is receiving power from the CAT 885.
2. **A/B IR INDICATORS:** These lights glow when the corresponding microphone (set to channel A or B) is turned on and transmitting. A steady light indicates a strong signal.
3. **SENSOR OUT:** Connect the Cat 5 sensor cable to this connection to send audio from the microphones to the CAT 885 amplifier.
4. **IR EXPANSION:** Connect up to three passive IR sensors (IR-SR70F) to this connection for larger classrooms. For more than one additional sensor a 3-way coax splitter is required (HS3).

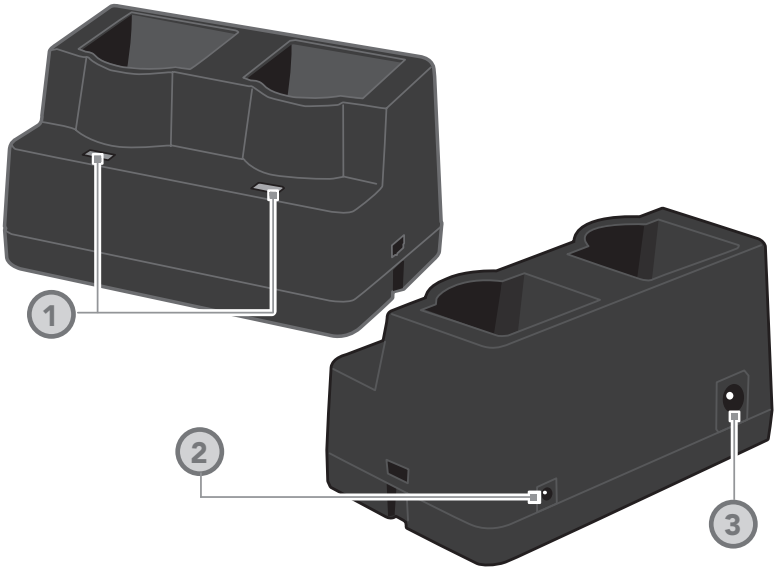
REDMIKE CONTROLS AND CONNECTIONS





1. **POWER BUTTON:** Press this button to turn the REDMIKE ON, press again to turn it OFF (mute).
2. **POWER/LOW BATTERY INDICATOR:** A BLUE light indicates the REDMIKE is on and fully charged. A RED light indicates a charge is needed.
3. **BATTERY COMPARTMENT:** To access the battery compartment, slide the door downward. The battery should only be replaced by a Lightspeed AA rechargeable sensing battery (part # BA-NH2A27).
4. **YELLOW PROTECTIVE TAB:** Slide the battery compartment door open to remove this disposable protective tab before use. NOTE: do not attempt to remove the tab without first opening the compartment door, as it may tear, leaving fragments.
5. **AUDIO/MICROPHONE INPUT:** Use this input to plug in a laptop, MP3 player or other audio source to wirelessly transmit audio to be played through the system. Alternatively, an external microphone can be connected.
6. **CHANNEL SELECT SWITCH (CH A/B):** This switch allows for selection between Channel A or B. If you are using a single microphone, we recommend using Channel A.
7. **CHARGER CONTACTS (+ -):** These contacts interface with the charging tabs in the BC-RMCC cradle charger for daily charging. Simply place the REDMIKE in the charger.

CRADLE CHARGER CONTROLS AND CONNECTIONS



1. **CHARGE INDICATORS:** The light glows RED while the REDMIKE is charging. When fully charged, the light will glow GREEN. A blinking RED light indicates that no battery is sensed, (REDMIKE Yellow Protective Tab may not have been completely removed—see page 5, item 4.) A blinking Green LED means a non- Lightspeed battery has been installed (possibly an alkaline battery).
2. **DC POWER PORT:** Connect the 5V/1.0A DC power cord here.
3. **OPTIONAL CHARGING PORT:** Plug the charging cord for the optional LT-71 or the REDMIKE Share microphones here.

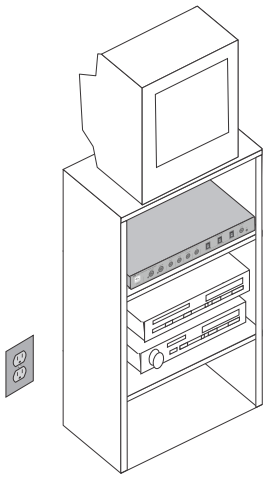
SECTION 2:

SET-UP & USE

1. LOCATION OF THE AMPLIFIER

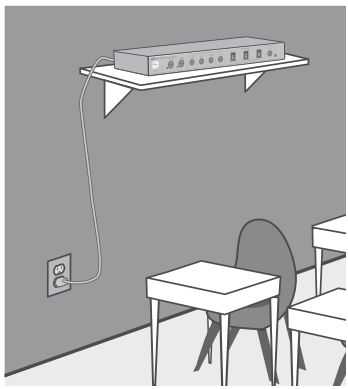
First, find a suitable location to set-up the amplifier. It is best to put the amplifier in a stable location near the other equipment to be used. If this is not possible, an optional Lightspeed wall shelf can be installed.

Media Cabinet Set-up



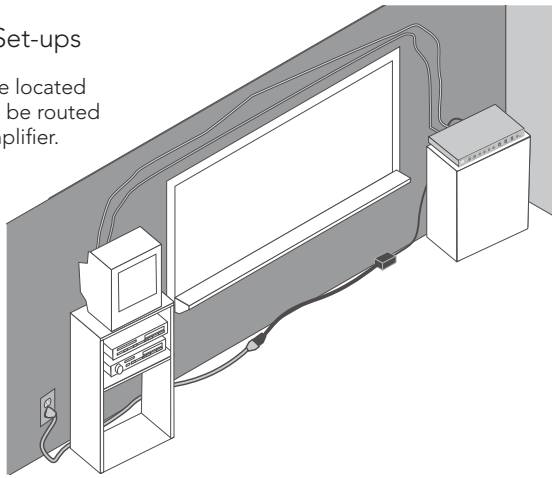
Wall-mount Set-up

The optional Lightspeed wall shelf (part #AC-800WB) is specifically designed to support the CAT 885.



Avoid Separated Set-ups

Components should be located together. Wires should be routed directly back to the amplifier.

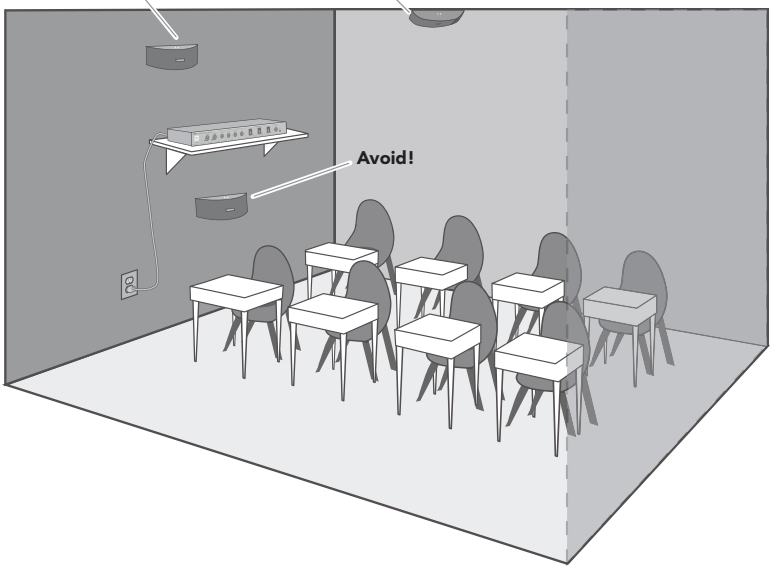


2. IR SENSOR/RECEIVER (ISR) INSTALLATION

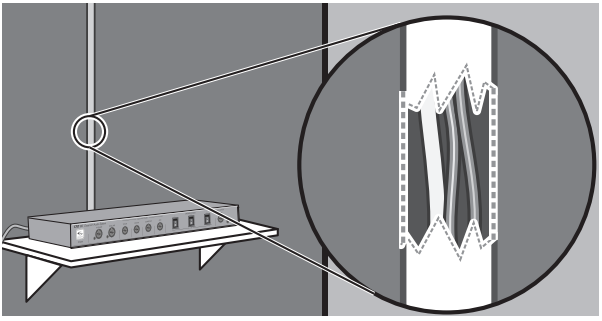
Next, find a suitable location for the ISR. Poor location will cause substandard performance of the CAT 885 Classroom Audio System. The ISR should be as high as possible in the room – the ceiling is the best location, centered along the longest wall in the room. When possible, use a conduit to protect the wires (not included). Poor choices for placement are corners, on walls at heights lower than 7 feet (2 meters), or in places where the line of sight from the ISR to the receiver is or could be obstructed.

Good placement

Best placement



Conduit is Recommended



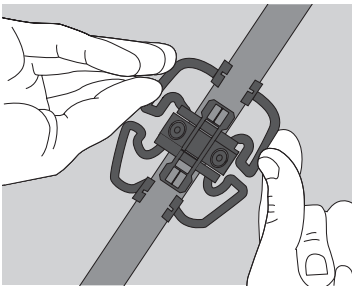
2. IR SENSOR/RECEIVER (ISR) INSTALLATION

CONT'D

Once you find a suitable location for the ISR, follow these instructions to mount it. There are different instructions for mounting depending on if the ISR will be mounted to a suspended ceiling grid or secured to a wall / solid vertical surface.

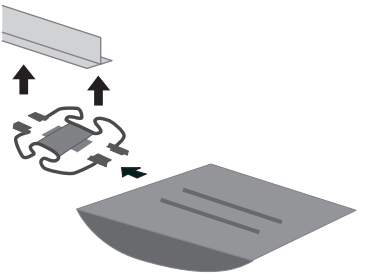
Suspended Ceiling Mount

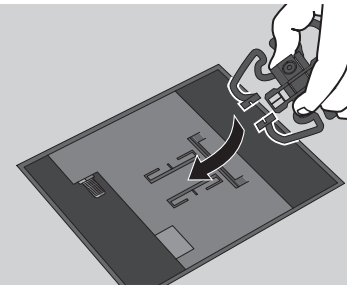
1. Attach the bracket to the ceiling tile grid (t-bar).
   a. Slide the tabs onto the outsides of the t-bar, starting with one corner.
   b. Attach the second tab around the other side of the t-bar.
   c. Repeat with the other side of the bracket so it is connected at all four points.



clip connects to t-bar on ceiling

2. Slide the ISR onto the bracket until it "clicks" into place.
   a. Guide the mounting rails onto the bracket, oriented as pictured.
   b. Once secure, the ISR locks into place.
   c. To remove the ISR, press the release bar down and slide the ISR off the bracket. (We need to label the "release bar" on the ISR Image that shows "clip guide")





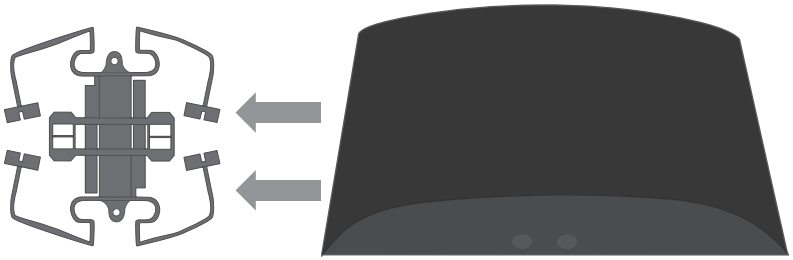
3. Uncoil the Cat 5 sensor cable. Connect one end of the cable to the ISR. Secure wire overhead and route it back to the system.
4. Connect the other end of the Cat 5 sensor cable into the SENSOR INPUT jack on the CAT 885 amplifier.

2. IR SENSOR/RECEIVER (ISR) INSTALLATION

CONT'D

Wall/Solid Ceiling Mount

1. Screw the bracket to a place high on the wall or in the middle of the solid ceiling. Mount the bracket horizontally as shown above.
2. Uncoil the Cat 5 sensor cable. Connect one end of the cable to the ISR. Route the wire back to the CAT 885 amplifier, securing it along with way using surface raceway where possible.
3. Slide the ISR onto the bracket until it "clicks" into place.
   a. Guide the mounting rails onto the bracket, oriented as pictured.
   b. Once secure, the ISR locks into place.
   c. To remove the ISR, slide a ruler or screwdriver behind the ISR to press the release bar down and slide the ISR off the bracket
4. Connect the other end of the Cat 5 sensor cable into the SENSOR INPUT jack on the CAT 885 amplifier.

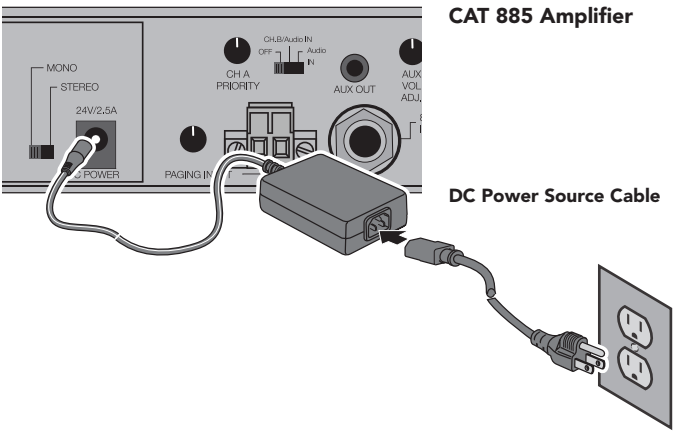


3. SPEAKER INSTALLATION

1. Locate the speaker installation instructions packed with your speaker(s).
2. Follow instructions and mount speaker(s).
3. Return to this manual to complete the set up of your system.

4A. CONNECT THE POWER SUPPLY

1. Ensure the power button is depressed in the OFF position.
2. Connect the DC end of the power supply to the black power jack labeled DC POWER.
3. Connect the black AC power cable from the power supply to a wall outlet.



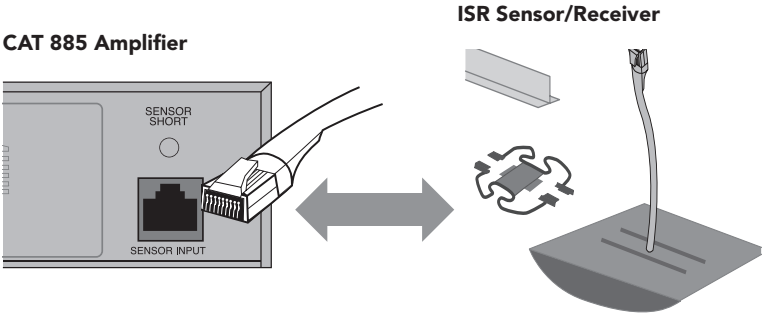
CAT 885 Amplifier

DC Power Source Cable

4B. ISR CONNECTION

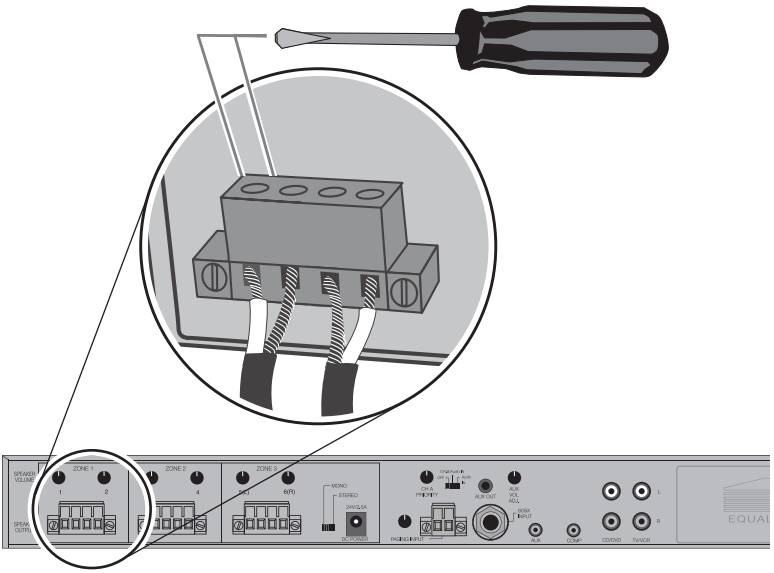
Check the connections from the ISR Sensor to the CAT 885. Ensure the CAT 885 is plugged into an electrical outlet.

1. Ensure the power is still switched off.
2. Check the connection from the ISR to the CAT 885. Ensure the sensor cable is securely attached and locked into place.



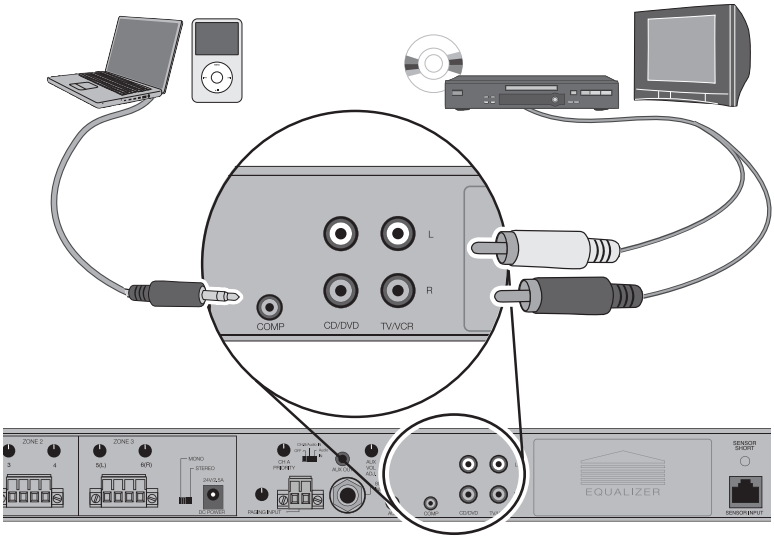
4C. SPEAKER CONNECTIONS

1. Ensure the power switch is in the off position
2. Ensure speaker wire connections are secure and not frayed. Under normal conditions, each speaker volume control should remain at maximum level (fully clockwise).



4D. AUDIO INPUT CONNECTIONS

1. Connect any auxiliary audio sources to the corresponding labeled input. (See following page for more information about integration with other classroom audio sources).

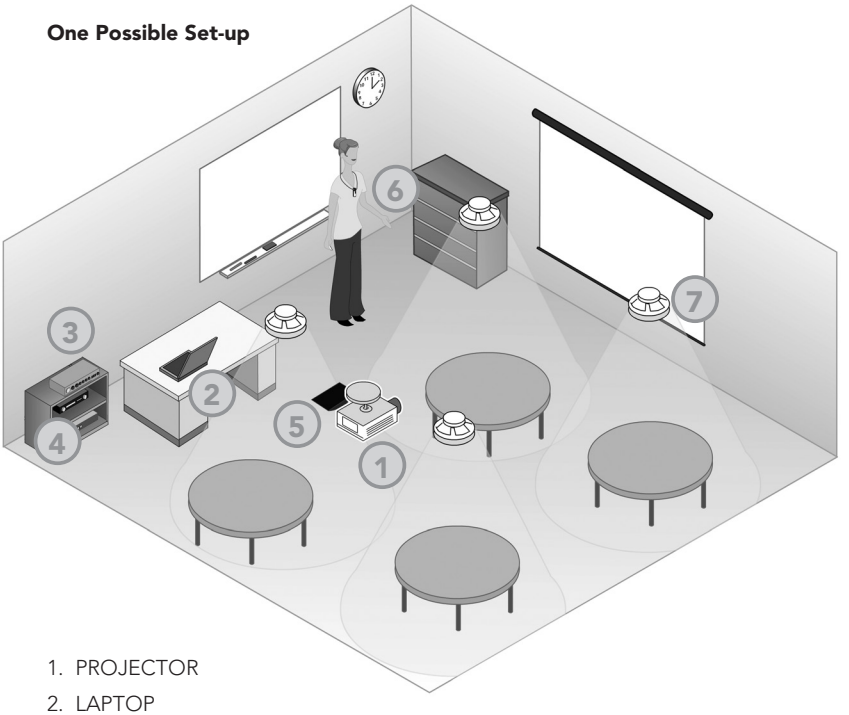


5. AUDIO INTEGRATION

The next step in setting up your CAT 885 system is to connect it to the other multimedia devices in your classroom. You may have a computer, television, DVD/VCR player, a visual projection system or other devices. Below are instructions on how to integrate TV/VCR, CD/DVD or computer directly into the CAT 885.

1. Ensure the power is switched off and the audio input volume controls are turned all the way down.
2. Connect the appropriate RCA or 3.5mm audio cable (not included) from the audio source into the corresponding input jack on the rear panel of the CAT 885.
3. With both the CAT 885 and the audio source power on, adjust the corresponding volume control on the CAT 885 until the desired level is achieved.

One Possible Set-up



1. PROJECTOR
2. LAPTOP
3. CAT 885
4. DVD
5. ISR SENSOR
6. TEACHER'S MICROPHONE
7. SPEAKERS

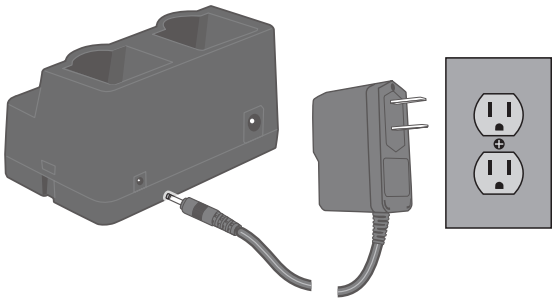
6. CHARGING THE REDMIKE

Before use, the REDMIKE should be charged. It will take 8-9 hours for the REDMIKE to obtain a full charge. A fully charged REDMIKE will last for over 7 hours of use. If microphones are used daily, they should be kept in the cradle – microphones can be left in a charging cradle constantly for up to 2 weeks without causing degradation to battery life.

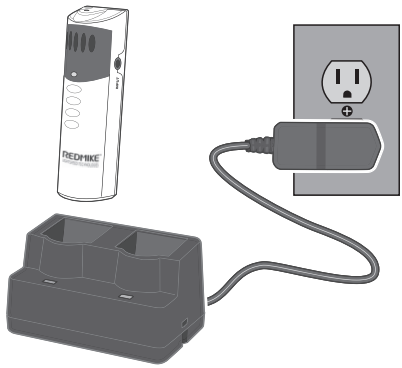
A red light on the charging cradle indicates the REDMIKE is charging. A green light indicates that charging is complete and a full charge has been reached. A blinking light indicates a charging or sensing error. See Troubleshooting section for more information.

REDMIKE incorporates alkaline protection into the microphone design. Always use a Lightspeed rechargeable sensing battery. Replacement AA NiMH batteries may only be purchased through Lightspeed Technologies (part # BA-NH2A27). Do not attempt to charge alkaline batteries. They can overheat and expand creating a significant hazard and damaging the microphone (this is not covered by warranty).

1. Plug power cord into the cradle charger and then plug the AC end into an electrical outlet.
2. Ensure that the REDMIKE is turned OFF.



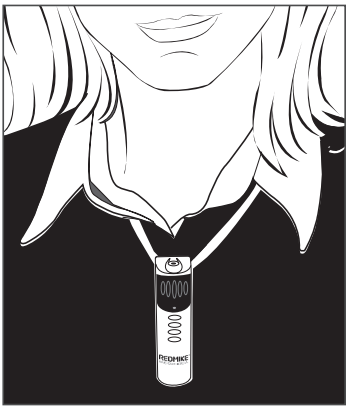
3. Place the REDMIKE into the cradle. The LED on the cradle will glow RED indicating charging has started. When the REDMIKE is fully charged the LED on the cradle charger will change to GREEN.



7. OPERATING THE REDMIKE

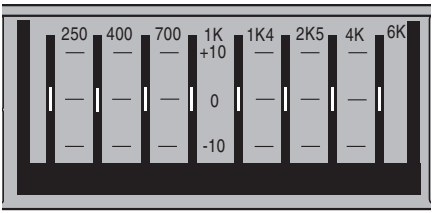
Once the REDMIKE is charged, follow these steps to set it up for use.

1. Turn the CAT 885 power on. The blue LED will glow.
2. Remove the REDMIKE from the charging cradle and turn it on.
3. Slip the REDMIKE with lanyard around the neck and position the top of the microphone just below the collarbone. NOTE: Positioning of the REDMIKE is critical for proper volume adjustment.
4. While speaking in a normal voice slowly increase the volume of the corresponding channel on the CAT 885 until your voice is barely audible. Each REDMIKE has its channel pre-set to either A or B, as indicated on the back of the Mic.



REMEMBER: This equipment supplements the user's voice so they are able to speak in a conversational tone. Having the volume set too high will result in feedback and listener fatigue.

5. Once initial volume level is set, walk around the room and listen for audio dropout and overall audio quality. Fine-tuning the audio is accomplished by making minor adjustments to the 8-Band Equalizer on the back panel of the CAT 885.
6. If a second REDMIKE was purchased, repeat steps 2-4.

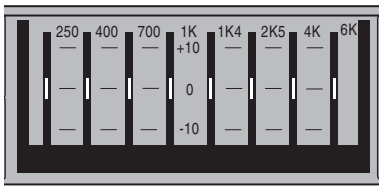


8. INITIAL SET-UP OF SPEAKER AUDIO

Audio Equalization of the CAT 885

The CAT 885 uses an 8-band audio equalizer designed to optimize and fine-tune the microphone sound quality for the classroom. Below are some tips on proper system equalization:

- The voice should be natural, very clear and without any audio feedback (ringing)
- Walk the room listening for the overall quality and any feedback that is present
- If there is a lot of audio feedback, it is likely the volume is too high. Ensure the volume is at the appropriate level, a second person is helpful to determine this.
- If feedback is still present with the audio set at the right level, make the following EQ adjustments:
  - High pitched ring: lower the 2K5 and/or 4K adjustment about halfway
  - Lower pitched ring: lower the 400 and/or 1K adjustment about halfway
- If you notice the sound is "muddy" or has too much bass:
  - Lower the 400 adjustment by about halfway and/or
  - Raise the 2K5 or 4K adjustment above the centerline by about 1/4
  - Note: the EQ adjustments should be preset at "0" or halfway from the top. This is the nominal level and any adjustments (up or down) should be made from this level.



Speaker Control

SPEAKER ZONING: By "zoning" or separating the classroom into different areas where audio may or may not be desired, the teacher has greater flexibility controlling the dispersion of sound throughout the room. Zoning is especially useful in large classrooms and media centers.

SPEAKER VOLUME CONTROL: An area of the classroom might contain a noise emitter such as an HVAC system. In this case, it may be necessary to turn up the volume of the affected speaker to overcome the noise in that area. When this situation arises, the CAT 885 allows the user to fine tune the output level.

9. SETTING MIC PRIORITIES

Teacher Voice Priority

This feature allows the teacher's voice to be heard over the other audio being played through the CAT 885. The three-position switch has the following functionality:

- OFF: Normal operation—turns Teacher Priority off.
- CH.B/Audio IN: Teacher's voice (the microphone set to Channel A) has priority over the student microphone (Channel B) and audio inputs. When the teacher speaks into the microphone, the audio of the other sources will mute. When the teacher stops talking or the REDMIKE is turned off, the audio returns.
- Audio In: Teacher's voice has priority over any audio sources that are plugged into the Audio Inputs only (Computer, TV/VCR, CD/DVD, etc.). When the teacher speaks into the microphone, the audio of the input sources will mute. When the teacher stops talking or the REDMIKE is turned off, the audio returns.

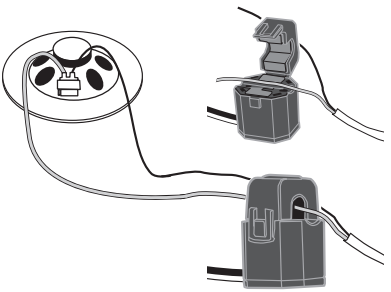
Page First: Priority Mute

This optional feature interfaces with an independent classroom paging system. When the page is broadcast, all audio from the system is muted, ensuring important school-wide messages are never missed.

How it works:

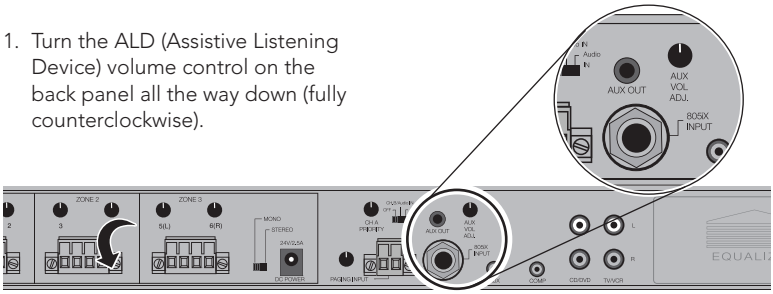
1. PageFirst sensor clip is hung around the lead wires attached to the classroom paging speaker.
2. The clip is hard-wired to the CAT 885.
3. As a page is broadcast, the sensor clip detects the audio signal through induction and immediately mutes the CAT 885.
4. When the page is over, the audio from the CAT 885 returns to normal volume level.

(For full installation details refer to the install sheet included with the optional PageFirst sensor clip)

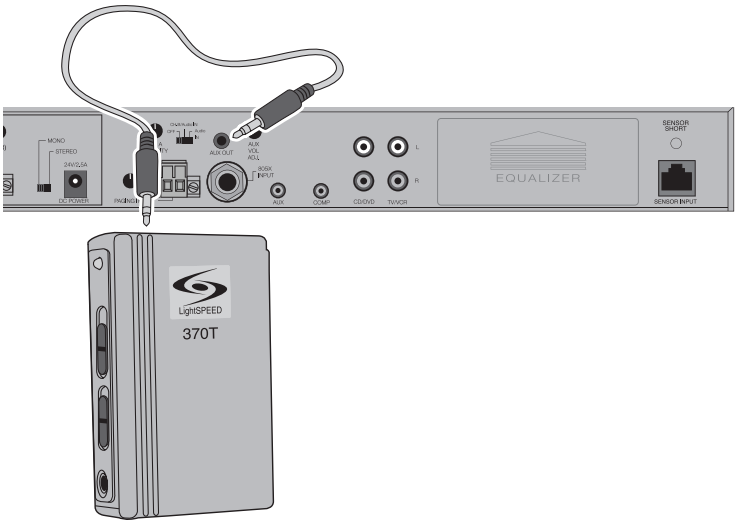


OUTPUT TO ASSISTIVE LISTENING DEVICE

1. Turn the ALD (Assistive Listening Device) volume control on the back panel all the way down (fully counterclockwise).



2. Determine the size and type of audio input jack on the device as many manufacturers' products differ in connector size and shape. The Lightspeed LES-370 Personal System requires a 3.5 mm to 3.5 mm patch cable (part# CA-MMC3535, not included).
3. Connect a patch cable from the ALD's microphone jack or AUX input to one of the following 3.5mm audio jack on the CAT 885:
   - "ALD OUT" on the front panel
   - "AUX OUT" on the back panel
4. Adjust the volume control on the ALD's receiver to maximum output. NOTE! This is to set the maximum allowable signal from the CAT 885.
5. With the CAT 885 and ALD turned on, speak into the REDMIKE and slowly adjust the corresponding volume control on the CAT 885 until the appropriate audio level is obtained in the ALD.



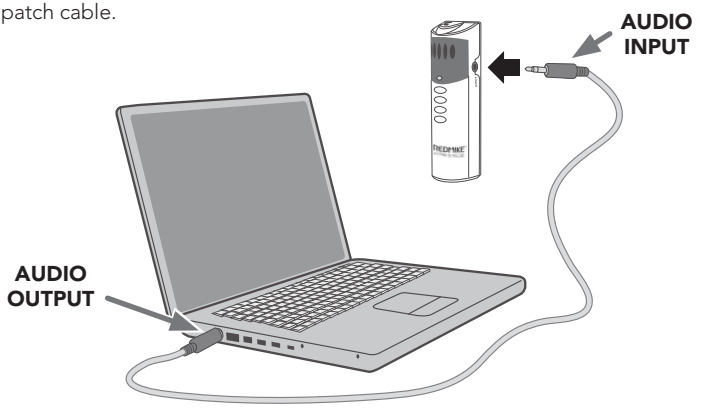
USING THE REDMIKE TO AMPLIFY EXTERNAL AUDIO EQUIPMENT

The REDMIKE includes a 3.5mm audio input jack to connect to an audio source like a laptop or MP3 player. The REDMIKE will transmit the audio signal to be played through the system.

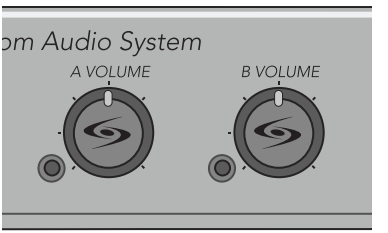
If your system includes two REDMIKEs, we recommend using Channel B (student mike) to amplify the external audio equipment so the teacher's volume on the Channel A (teacher mike) does not have to be adjusted.

To determine which REDMIKE is set to Channel B, you can look at the switch on the back of the mike or speak into one of the mics and watch which set of LED's glow on the front panel of the CAT 885 (A Volume or B Volume correspond to Channels A or B).

1. Plug your external audio equipment (for example, laptop), into the input on the REDMIKE labeled "INPUT" using a 3.5mm patch cable.



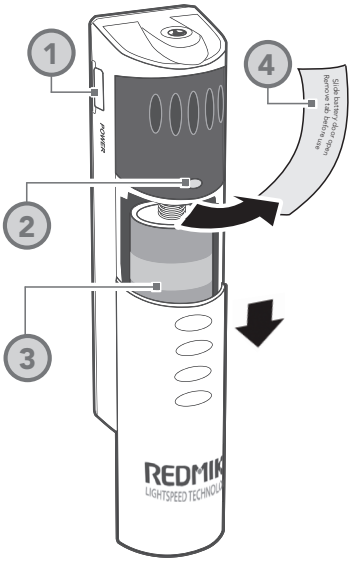
2. Adjust the volume on the CAT 885 receiver which corresponds to selected mic channel A or B.

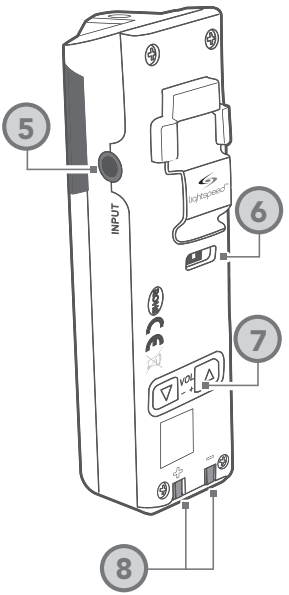


SECTION 3:

OPTIONAL ACCESSORIES

OPTIONAL REDMIKE VC (Volume Control) Controls and Connections





1. **POWER /MUTE BUTTON**
2. **POWER/LOW BATTERY INDICATOR:** A BLUE light indicates the REDMIKE VC is on and fully charged. A RED light indicates a charge is needed.
3. **BATTERY COMPARTMENT:** To open, slide the door downward. The battery should only be replaced by a Lightspeed AA rechargeable sensing battery (part # BA-NH2A27).
4. **YELLOW PROTECTIVE TAB:** Slide the battery compartment door and remove this disposable protective tab before use.
5. **AUDIO/MICROPHONE INPUT:** Use this input to plug in a laptop, MP3 player or other audio source to wirelessly transmit audio to be played through the system. Alternatively, an external microphone can be connected.
6. **CHANNEL SELECT SWITCH (CH A/B):** Use this to choose Channel A or B. If you are using a single microphone, we recommend using Channel A.
7. **VOLUME CONTROLS (UP - DOWN)**
8. **CHARGER CONTACTS (+ -):** These contacts interface with the charging tabs when the REDMIKE VC is placed in the BC-RMCC cradle charger.

REDMIKE VC : Charging

Before use, the REDMIKE VC should be charged. See page 23 and follow the same instructions for the REDMIKE.

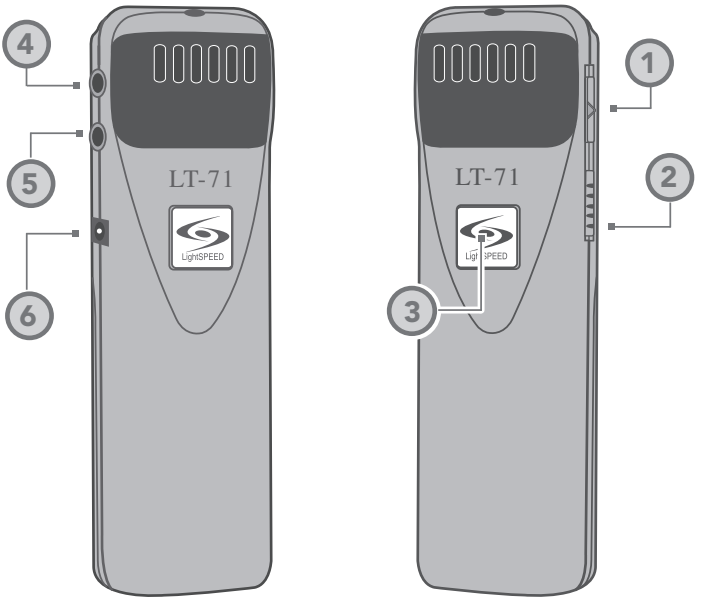
REDMIKE VC : Initial Set-up

See page 24 and follow the same instructions for the REDMIKE to setup the REDMIKE VC.

NOTE: A nominal volume level must be set on the CAT 885 before adjusting controls on the REDMIKE VC.

The teacher can now use the controls on the REDMIKE VC to adjust the volume level from anywhere in the room. The microphone volume control has 4 steps up and 4 steps down from the mid point (9 levels total).

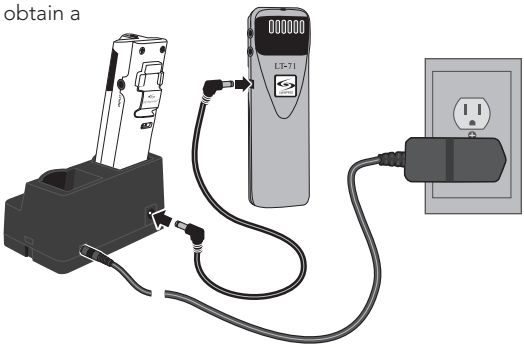
OPTIONAL LT-71: Controls and Connections



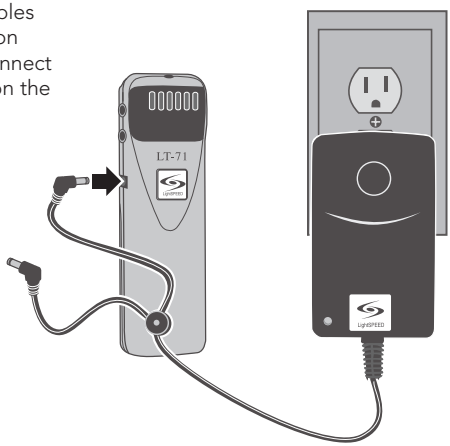
1. **ON/OFF/MUTE Switch**
2. **CHANNEL SELECT SWITCH (CH A/B):** Use this to choose Channel A or B. If you are using a single microphone, we recommend using Channel A.
3. **POWER/CHARGE INDICATOR:** A BLUE light indicates the REDMIKE VC is on and fully charged. A RED light indicates a charge is needed.
4. **EXTERNAL MICROPHONE INPUT (MIC):** Use the 3.5mm MIC jack for the optional TK-250 headset microphone (part# MC-TK250LTM).
5. **AUXILIARY (AUX):** Plug a laptop, MP3 player or other audio source into this jack to wirelessly transmit the audio signal to be played through the system.
6. **CHARGER INPUT (CHARGER):** Plug the charging cable from the charger into this jack for daily charging. The LED on the front will glow RED to indicate charging.

LT-71: Charging

1. Ensure that the LT-71 is turned OFF.
2. Make sure the cradle charger is plugged into a wall outlet. Connect one end of the charging cable into the jack labeled CHARGER on the side of the LT-71 and plug the other end into the charging jack on the rear of the REDMIKE cradle charger. The LT-71's rechargeable batteries are factory installed. The LED on the front of the LT-71 will glow RED when charging.
3. Leave the LT-71 plugged in overnight (8–10 hrs.) to obtain a full charge.



NOTE: If the system was purchased without a REDMIKE or REDMIKE VC, the LT-71 will utilize a charging cable. Simply connect the charging cables to the jacks labeled CHARGER on the back of the amplifier and connect the opposite ends to the jacks on the back of the cradle charger.

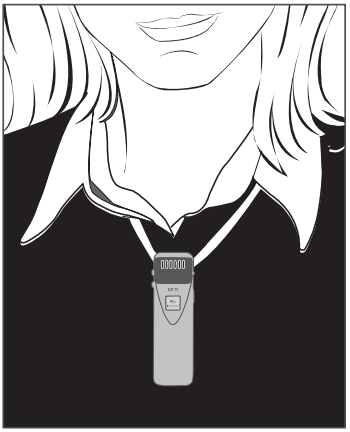


LT-71: Initial Set-up

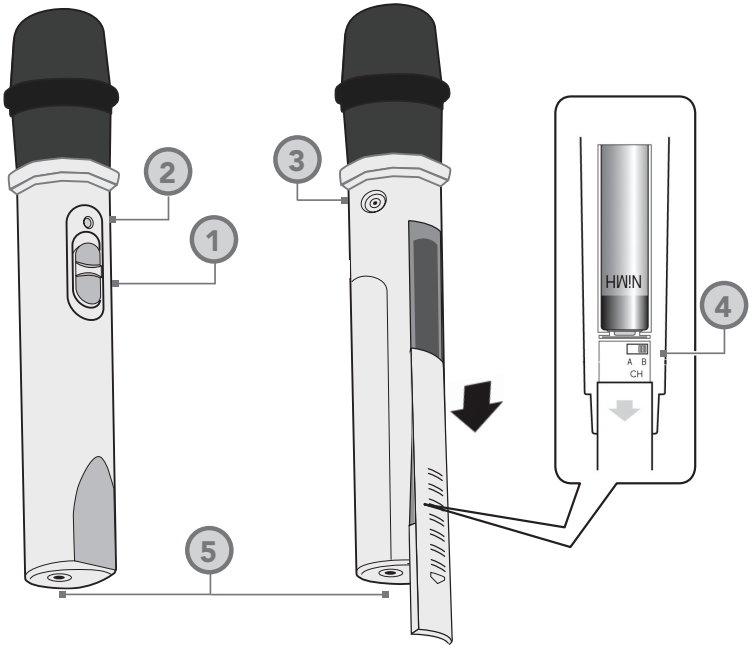
Once the LT-71 is charged, follow these steps to set it up for use.

1. Turn the CAT 885 power switch to the ON position. The RED LED on the switch will glow.
2. Turn on the LT-71 and set the operating channel to "B".
3. Slip the LT-71 with lanyard around the neck and position the top of the microphone just below the collarbone. NOTE: Positioning of the LT-71 is critical for proper volume adjustment.
4. While speaking in a normal voice slowly increase the volume for Channel B on the CAT 885 until your voice is barely audible.

   REMEMBER: This equipment supplements the user's voice so they are able to speak in a conversational tone. Having the volume set too high will result in feedback and listener fatigue.



REDMIKE Share: Controls and Connections



1. POWER SWITCH:

2. POWER/CHARGE INDICATOR: this light glows blue when turned on and turns off to indicate low battery level. When charging, the light glows red.

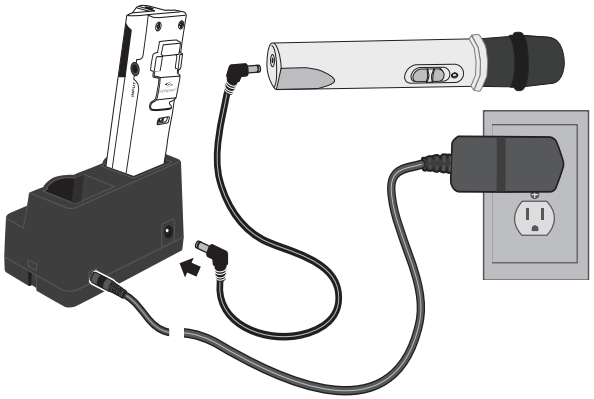
3. AUDIO INPUT: plug a laptop, MP3 player or other audio device into this jack to wirelessly transmit the audio signal to be played through the system.

4. CHANNEL SELECT SWITCH (CH A/B): Located in the battery compartment, this switch is set to Channel B at the factory.

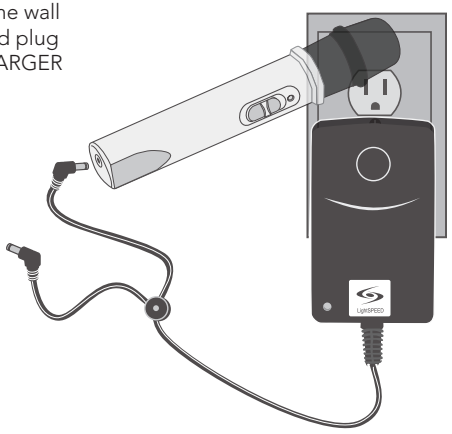
5. CHARGER INPUT: Plug the charging cable from the REDMIKE cradle charger or into this jack.

REDMIKE Share: Charging

1. Ensure that the REDMIKE Share is turned OFF.
2. Make sure the cradle charger is plugged into a wall outlet. Connect one end of the charging cable into the jack labeled CHARGER on the bottom of the REDMIKE Share.
3. Plug the other end into the charging jack on the rear of the cradle charger.
4. The LED on the microphone will glow RED to indicate charging.
5. Leave the REDMIKE Share plugged in overnight (8-10 hours) to obtain a full charge.



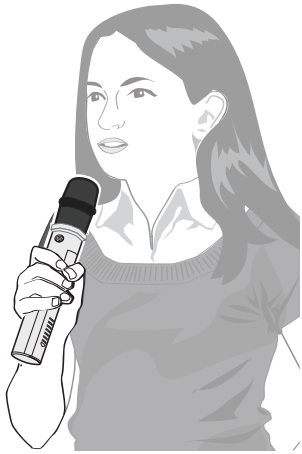
NOTE: If the system was purchased without a REDMIKE or REDMIKE VC, the REDMIKE Share will utilize the BC-TXLT wall charger. Plug the wall charger into an AC outlet and plug the other end(s) into the CHARGER jack on the REDMIKE Share.



REDMIKE Share: Initial Set-up

1. Ensure the CAT 885 is ON. The blue LED on the power button will glow.
2. Turn on the REDMIKE Share by sliding the switch to the top position.
3. Grip the barrel in the center section. Avoid covering the infrared emitters just below the microphone grille. This could interrupt signal transmission.
4. While speaking in a normal voice, increase the B VOLUME on the CAT 885 level until your voice is barely audible.

REMEMBER: This equipment is designed to supplement and distribute the user's voice so they are able to speak in a conversational tone. Having the volume set too high will result in feedback and listener fatigue.



INITIAL SET-UP: OPTIONAL IR MEDIA CONNECTOR

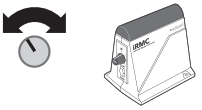
1. Turn off the second microphone. The iR Media Connector uses the same channel (channel B) as the optional second microphone (REDMIKE, LT-71, or REDMIKE Share). As a result, they cannot be used simultaneously. If you have a second microphone, turn it off before transmitting audio from the iRMC.

   NOTE: If you adjust the CH B volume on the classroom audio system, you will also be changing the volume for your second microphone. Return the CH B volume knob to the original position before turning the second microphone back on.

2. The iR Media Connector volume is preset for most standard audio signals. If you need to turn the volume up or down, follow this procedure:

   A. Adjust the volume at the computer, television, or other audio source if possible.

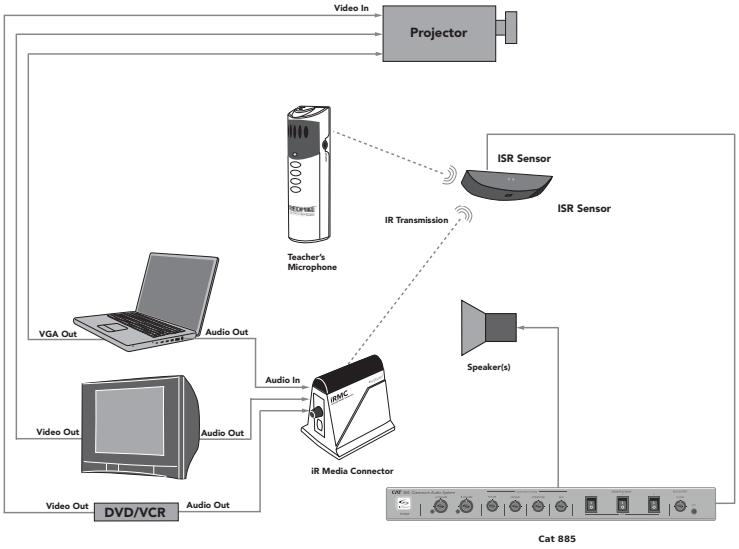
   B. If the audio source does not have a volume control (such as many DVD players) adjust the volume at the iRMC.



   C. If the first two options do not give optimum volume level, the last place to adjust the volume is the CH. B Volume on the CAT 885.

OPTIONAL IR MEDIA CONNECTOR AUDIO INTEGRATION

The iRMC is designed to integrate with the CAT 885 and multiple audio sources, allowing other instructional technologies to be clearly heard throughout the classroom.



OTHER OPTIONAL ACCESSORIES

Other Optional Accessories	
IRMC	Infrared Media Connector
MC-TK250M	Noise-canceling headset microphone
AC-TCC7	Charging cable for REDMIKE Share and LT71
CA-RCA6	6' dual RCA audio cable
CA-MSC3535	3.5mm to 3.5mm stereo audio cable

SECTION 4:

TROUBLESHOOTING

COMMON PROBLEMS AND SOLUTIONS

Note: Most problems are directly related to low battery power. Please run through the "Battery Check" items first. For remaining troubleshooting, use known good, fully-charged batteries.

ALL PROBLEMS: Most Problems are related to low battery power.

SOLUTION: Battery Check

- Confirm batteries are charged each night.
- Confirm proper batteries are used. The REDMIKE requires the Lightspeed BA-NH2A27 rechargeable sensing battery for proper charging. The REDMIKE Share uses the BA-NH2APK rechargeable battery pack. The LT-71 requires two BA-NH1 AA rechargeable batteries.
- Make sure the microphones are turned off while charging so a full charge is attained. Full charge will last eight hours.
- Inspect the battery contacts. Clean and adjust if necessary.

PROBLEM: Hearing Static

SOLUTION: Follow these steps to eliminate static.

- Ensure sensor is in optimum location (refer to sensor placement in manual). A single sensor will cover a 1600 sq. ft. enclosed classroom.
- Ensure that no other REDMIKE/LT-71/REDMIKE Share is operating on the same channel.
- If the optional iR media connection is in use, set the microphone to Channel A.

PROBLEM: Low Volume or Feedback

SOLUTION: Follow these steps to eliminate low volume or feedback.

- Ensure microphone is positioned appropriately, just below the collar bone.
- Check volume level on the amplifier. If the volume is too high, feedback will occur. Adjust accordingly.
- Adjust the volume level on the back of the optional REDMIKE VC.

PROBLEM: No Sound From Speaker

SOLUTION: Follow these steps to produce sound from speakers.

- Turn the CAT 885 on. Confirm that the POWER light located on the front panel switch is on.
- Confirm signal is being received at the CAT 885. The IR signal light will be RED indicating a signal is being received.
- Confirm that REDMIKE is turned on. There will be a BLUE LED on the microphone to indicate it is powered on.

If you review these instructions and still have questions, write down the serial number and model number of your system and call Lightspeed Technical Services at 800.732.8999, 5 a.m. – 5 p.m., PST.

TIPS TO OBTAIN OPTIMUM AUDIO PERFORMANCE

- Speak in a natural voice. A normal conversational speech level will provide an adequate signal. It is not necessary to increase the intensity of your voice—the audio system provides adequate amplification (approximately 5 – 10 dB) above ambient room noises.
- Avoid wearing jewelry that may rub or bump against the microphone.
- Turn the REDMIKE off during private conversations with a student, parent, or other classroom visitor. You can also cover the LED lens on top of the REDMIKE to block the signal.
- Recharge batteries each night. When recharged nightly, operating time (actual usage) for the transmitters will last through a typical school day.

SECTION 5:

WARRANTY, SAFETY & SPECIFICATIONS

FIVE-YEAR LIMITED WARRANTY

Lightspeed Classroom Audio Systems are guaranteed against malfunction due to defects in materials and workmanship for a period of FIVE (5) YEARS, beginning at the date of the purchase invoice. If such malfunction occurs, the product will be repaired or replaced (at Lightspeed's option) without charge during the warranty period.

Lightspeed's Warranty Exchange Program applies to all infrared systems within the five (5) year warranty period. If an infrared product or component has an issue that requires service, a refurbished replacement will immediately be sent to the customer to minimize downtime. Customers will receive the exchange product(s) or component(s) within 2-3 days. A prepaid return label will be included with exchanged products so original malfunctioned equipment can be returned to Lightspeed. Any exchanged equipment will remain covered under the original five (5) year warranty.

1. Warranty on infrared microphones is FIVE (5) YEARS.
2. Warranty on Lightspeed NiMH rechargeable batteries is one (1) year.
3. Prepaid shipping label provided by Lightspeed for warranty repairs within the U.S. Customers outside the U.S. should refer to the Lightspeed website (www.lightspeed-tek.com) for warranty repair instructions.
4. Warranty does not extend to finish, appearance items, or malfunctions due to abuse or operation other than specified conditions, nor does it extend to incidental or consequential damages. Repair by other than Lightspeed or its authorized service agencies will void this guarantee. Information on authorized service agencies is available from Lightspeed Technologies, Inc.

Our Service Department (800.732.8999, 5 a.m. – 5 p.m., PST) will handle all your repair/replacement needs.

SAFETY WARNINGS AND CERTIFICATIONS

CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED PERSONNEL

CE

This product conforms with the essential requirements of the following European Union Directives: 89/336/EEC, 92/31/EEC, 93/68/EED, and 2004/108/EC Electromagnetic Compatibility Directives.

Lightspeed Technologies launched a formal product recycle program in Europe that complies with the European Union Directive 2002/96/EC on Waste Electrical and Electronic Equipment ("WEEE Directive"). Please visit our website at www.Lightspeed-tek.com for more information.

ROHS

This product is manufactured using lead-free processes and is free of other materials harmful to the environment. It conforms to the most stringent new European guidelines for consumer products (RoHS).

OVERALL SPECIFICATIONS

Power Output	12 W per channel (72 W total)
Amplifier Frequency Response	60 Hz to 20 kHz ±3 dB
Carrier Frequencies (IR)	2.06/2.54; 3.2/3.7 MHz
Signal-to-Noise Ratio	> 73 dB
Dynamic Range	> 73 dB
Maximum Deviation	> 70 dB

AMPLIFIER SPECIFICATIONS

Receiver Type	Superheterodyne
Receiver Sensitivity	6 µV for 60 dB S/N
Image and Spurious Rejection	> 70 dB
Dimensions (W x D x H)	8.6" x 6.8" x 2.2"
Weight	2.75 lbs.

TRANSMITTER SPECIFICATIONS

REDMIKE and REDMIKE VC	
Audio Distortion	< 1 %
Built-in Microphone	Unidirectional Electret
Battery Power (1-year warranty)	1 AA NiMH Rechargeable Sensing Battery
Audio Input	3.5 mm
Dimensions (W x D x H)	0.9" x 1.0" x 3.5"
Weight	2.1 oz.
LT-71 LightMic	
Audio Distortion	< 1 %
Built-in Microphone	Unidirectional Electret
Battery Power (1-year warranty)	2 AA NiMH Rechargeable
Audio Inputs	Mic Level 3.5 mm, Line Level 3.5 mm
Dimensions (W x D x H)	1.375" x .75" x 4.625"
Weight	3.7 oz.
REDMIKE Share Handheld Microphone	
Audio distortion	<1%
Built-in Microphone	Unidirectional Electret
Battery Power (1-year warranty)	2 AA NiMH Rechargeable Battery Pack
Audio Input	3.5 mm
Dimensions (W x D x H)	8.25" x 1.3" x 1.3"
Weight	7.9 oz

ISR SENSOR SPECIFICATIONS

Operating Range	Up to 1600 square feet
Cable	50 ft., Plenum-rated Cat 5e
Mounting	Ceiling clip/Wall bracket
Dimensions (W x D x H)	9.4" x 1.4" x 5.2"
Weight	14.3 oz.

lightspeed™

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